

Safety Data Sheet - Electrochemical Sensors

Introduction

Electrochemical sensors contain small amounts of chemicals such as electrolytes and catalysts that are sealed inside and do not pose an exposure hazard under normal operating conditions. Safety information is provided here in case of rupture or leakage. Other mPower sensors such as LEL, NDIR and PID sensors do not contain any liquids or hazardous materials.



POLI Sensor Module

Section I – Product and Supplier Information

Product: Electrochemical sensors including toxic gas sensors and oxygen sensors

Supplier: mPower Electronics

Address: 3046 Scott Blvd.
Santa Clara, CA 95054

Phone: 408-320-1266

Website: www.mpowerinc.com

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Section II – Hazard Summary

Health Hazard: Electrolyte is corrosive and harmful if swallowed or absorbed on skin or eyes. Oxygen sensors may contain lead, which is a toxicity hazard.

Physical Hazard: Very low

Environmental Hazard: Negligible due to small quantities

Section III – Ingredient Properties and Toxicity

Oxygen Sensors

Component	Potassium Hydroxide	Lead Wool	Lead Oxides
Formula & Amount	KOH 10-15% (aq)	Pb	Pb ₃ O ₄
Amount	1-5 g	5-10 g new	5-10 g used
CAS No.	1310-58-3	7439-92-1	1314-41-6
Description	Colorless liquid	Gray solid	Reddish powder
Melting Point	NA	237°C	500°C (decomp)
Boiling Point	>100°C	1750°C	NA
Water solubility	miscible	NA	NA
OSHA PEL	Ceiling 2 mg/m ³	TWA 0.05 mg/m ³	TWA 0.05 mg/m ³
Carcinogenicity	NA	IARC-2B possible	IARC-2A probable

Toxic Gas Sensors

Component	Sulfuric Acid	Copper	Platinum	Ruthenium	Silver	Gold	Carbon
Formula	H ₂ SO ₄ 38% (aq)	Cu	Pb	Ru	Ag	Au	C
Amount	≤0.6 g	≤0.5 g	trace	trace	trace	trace	≤0.1 g
CAS No.	7664-93-9	7440-50-8	7440-06-4	744-18-8	7440-22-4	7440-57-5	7782-42-5
Description	Colorless liquid	Bronze solid	Black powder	Gray powder	Gray powder	Brown powder	Black powder
Melting Point	NA	1085°C	237°C	500°C (decomp)	962°C	1064°C	NA (decomp)
Boiling Point	330°C	2562°C	3827°C	4150°C	2212°C	2808°C	NA
Water solubility	miscible	NA	NA	NA	NA	NA	NA
OSHA TWA	1 mg/m ³	1 mg/m ³	1 mg/m ³	NA	0.01 mg/m ³	NA	3.5 mg/m ³
Carcinogenicity	IARC-1 confirmed (as mist)	EPA-D unlikely	NA	NA	EPA-D unlikely	NA	IARC-2B possible

Section IV – First Aid Measures

- Inhalation Extremely unlikely
- Skin or Eye Contact: Rinse with steady stream of water for several minutes
- Ingestion: Drink plenty of water and seek medical attention. Do not induce vomiting.

CHEMTREC Emergency Telephone Number: 1-800-424-9300 or 011-703-527-3887

Section V – Fire and Explosion Hazard

Applying high voltage may cause sensor to heat and rupture. Toxic vapors may result from combustion of plastic housing.

FIRE FIGHTING MEASURES: Water, foam, dry powder, sand or CO₂.

Section VI – Storage

Store new sensors refrigerated between 2-10°C (36-50°F) to maximize operating life. Do not freeze new sensors. Used sensors collected for disposal should be stored at room temperature or lower to prevent leakage.